

ORGANIC NONLINEAR OPTICAL MATERIAL

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Abstract

PURPOSE: To improve the light transmittability in a short wavelength region and to exhibit a high quadratic nonlinear optical effect by consisting the above material of a specific compd.

CONSTITUTION: An optical fiber type optical wavelength conversion element has the structure formed by coating a core 1 consisting of an org. nonlinear optical material with a clad 2 consisting of a material, such as glass, which does not exhibit the nonlinear optical effect. The compd. expressed by formula I exhibits the high quadratic nonlinear optical effect by using a technique of predicting the max. light absorption wavelength and quadratic molecular ultra polarization rate beta by using a PPP (pariser-parr-pole)-MO method which is a kind of molecular orbit methods. This compd. is usable adequately particularly as the org. nonlinear optical material for a second harmonic generating element. In the formula I, X denotes an electron-withdrawing group.

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